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What is Claimed:

1 1. A method for controlling the temperature of a cold plate comprising
2 the steps of:

3 compressing a refrigerant received from an evaporator of a cold plate;

4 directing the compressed refrigerant along a first path to the cold plate, the
5 first path configured to receive compressed refrigerant from the compressor and to supply
6 cooled refrigerant to the evaporator of the cold plate;

7 redirecting at least a portion of the compressed refrigerant along a second
8 path to the cold plate, the second path configured to receive compressed refrigerant from
9 the compressor and to supply non-cooled refrigerant to the evaporator of the cold plate;

10 comparing a temperature reading associated with the cold plate to a
11 predefined temperature range; and

12 controlling the portion of the compressed refrigerant redirected along the
13 second path responsive to the compared temperature reading such that the redirected
14 portion is incrementally increased if the temperature reading is below the temperature
15 range to heat the cold plate and the redirected portion is incrementally decreased if the
16 temperature reading is above the temperature range to cool the cold plate.

1 2. The method of claim 1, further comprising the steps of:

2 receiving a shutdown indicator; and

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3 redirecting substantially all of the compressed refrigerant along the second
4 path for a predefined period of time responsive to the shutdown indicator to at least
5 partially defrost the cold plate.

1 3. The method of claim 2, further comprising the step of:

2 displaying a remaining time indicator corresponding to the predefined period
3 of time remaining for redirecting substantially all of the compressed refrigerant along the
4 second path.

1 4. The method of claim 1, wherein a controlled valve redirects the
2 compressed refrigerant and wherein the controlling step comprises the step of:

3 incrementally controlling a duty cycle of the controlled valve responsive to
4 the temperature comparison to control the redirected portion of the compressed
5 refrigerant.

1 5. The method of claim 1, wherein a controlled valve redirects the
2 compressed refrigerant and wherein the controlling step comprises the step of:

3 incrementally controlling an aperture size of the controlled valve responsive
4 to the temperature comparison to control the redirected portion of the compressed
5 refrigerant.

1 6. A method for controlling the temperature of a cold plate to at least
2 partially defrost the cold plate comprising the steps of:

3 compressing a refrigerant received from an evaporator of a cold plate;

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4 directing the compressed refrigerant along a first path to the cold plate, the
5 first path configured to receive compressed refrigerant from the compressor and to supply
6 cooled refrigerant to the evaporator of the cold plate;

7 receiving a shutdown indicator; and

8 redirecting at least a portion of the compressed refrigerant along a second
9 path to the cold plate for a predefined period of time responsive to the shutdown indicator,
10 the second path configured to receive compressed refrigerant from the compressor and to
11 supply non-cooled refrigerant to the evaporator of the cold plate.

1 7. The method of claim 6, wherein the redirecting step comprises:

2 redirecting substantially all of the compressed refrigerant along the second
3 path.

1 8. The method of claim 6, further comprising the step of:

2 displaying a remaining time indicator corresponding to the predefined period
3 of time remaining for redirecting substantially all of the compressed refrigerant along the
4 second path.

1 9. An apparatus for controlling the temperature of a cold plate
2 comprising:

3 a cold plate including an evaporator having an input and an output;

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4 a compressor having an output and an input coupled to the output of the
5 evaporator for receiving refrigerant;

6 a first path coupled between the output of the compressor and the input of
7 the evaporator, the first path configured to receive compressed refrigerant from the
8 compressor and supply cooled refrigerant to the cold plate;

9 a second path coupled between the output of the compressor and the input
10 of the evaporator, the second path configured to receive compressed refrigerant from the
11 compressor and supply non-cooled refrigerant to the cold plate;

12 a controlled valve coupled to the output of the compressor to redirect at
13 least a portion of the refrigerant from the first path to the second path;

14 a temperature sensor that obtains a temperature reading associated with the
15 cold plate; and

16 a controller coupled to the temperature sensor and the controlled valve, the
17 controller configured to compare the temperature reading associated with the cold plate to
18 a predefined temperature range and control the portion of the compressed refrigerant
19 redirected along the second path responsive to the compared temperature reading such
20 that the redirected portion is incrementally increased if the temperature reading is below
21 the temperature range to warm the cold plate and the redirected portion is incrementally
22 decreased if the temperature reading is above the temperature range to cool the cold
23 plate.

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1 10. The apparatus of claim 9, wherein the controller is further configured
2 to receive a shutdown indicator and to redirect substantially all of the refrigerant along the
3 second path for a predetermined period of time responsive to the shutdown indicator to at
4 least partially defrost the cold plate.

1 11. The apparatus of claim 10, further comprising:

2 a display coupled to the controller, the display configured to display a
3 remaining time indicator corresponding to the predefined time period remaining for
4 redirecting substantially all of the refrigerant along the second path.

1 12. The apparatus of claim 11, wherein the display is located in a remote
2 location.

1 13. The apparatus of claim 9, wherein the controlled valve is an on/off
2 valve and wherein the controller incrementally controls a duty cycle of the on/off valve to
3 control the redirected portion of the refrigerant.

1 14. The apparatus of claim 9, wherein the controlled valve is a
2 proportional valve and wherein the controller incrementally controls an aperture size of the
3 proportional valve to control the redirected portion of the refrigerant.

1 15. The apparatus of claim 9, wherein the controller is located in a
2 remote location.

1 16. An apparatus for controlling the temperature of a cold plate to at
2 least partially defrost the cold plate comprising:

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3 a cold plate including an evaporator having an input and an output;

4 a compressor having an output and an input coupled to the output of the
5 evaporator for receiving refrigerant;

6 a first path coupled between the output of the compressor and the input of
7 the evaporator, the first path configured to receive compressed refrigerant from the
8 compressor and supply cooled refrigerant to the cold plate;

9 a second path coupled between the output of the compressor and the input
10 of the evaporator, the second path configured to receive compressed refrigerant from the
11 compressor and supply non-cooled refrigerant to the cold plate;

12 a controlled valve coupled to the output of the compressor to redirect at
13 least a portion of the refrigerant from the first path to the second path;

14 a switch configured to generate a shutdown indicator; and

15 a controller coupled to the controlled valve, the controller configured to
16 control the controlled valve responsive to receipt of the shutdown indicator such that at
17 least a portion of compressed refrigerant is redirected along the second path for a
18 predefined period of time.

1 17. The apparatus of claim 16, wherein the controller is configured to
2 redirect substantially all of the refrigerant along the second path for the predetermined
3 period of time responsive to the shutdown indicator.

1 18. The apparatus of claim 16, further comprising:

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2 a display coupled to the controller, the display configured to display a
3 remaining time indicator corresponding to the predefined time period remaining for
4 redirecting substantially all of the refrigerant along the second path.

1 19. The apparatus of claim 18, wherein the display is located in a remote
2 location.

1 20. The apparatus of claim 16, wherein the controller is located in a
2 remote location.